



## Turning climate change information into economic and health impacts

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### Abstract:

The PRUDENCE project has generated a set of spatially and temporally high-resolution climate data, which provides new opportunities for assessing the impacts of climate variability and change on economic and human systems in Europe. In this context, we initiated the development of new approaches for linking climate change information and economic studies. We have considered a number of case studies that illustrate how linkages can be established between geographically detailed climate data and economic information. The case studies included wheat production in agriculture, where regional climate data has been linked to farm enterprise data in an integrated model of physical conditions, production inputs and outputs, and farm management practices. Similarly, temperature data were used to assess consequences of extreme heat and excess mortality in urban areas. We give an introduction of an analytical approach for assessing economic impacts of climate change and discuss how economic concepts and valuation paradigms can be applied to climate change impact evaluation. A number of methodological difficulties encountered in economic assessments of climate change impacts are described and a number of issues related to social and private aspects of costs are highlighted. It is argued that, in particular, detailed climate information matters in relation to understanding how private agents react to observed climate data.

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### Resource Description

#### Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES)

**Special Report on Emissions Scenarios (SRES) Scenario:** SRES A2, SRES B2

#### Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Food/Water Security, Meteorological Factors, Precipitation, Temperature

**Food/Water Security:** Agricultural Productivity

**Temperature:** Extreme Heat, Fluctuations

#### Geographic Feature:

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resource focuses on specific type of geography

Urban, Other Geographical Feature

**Other Geographical Feature :** Farmland

**Geographic Location:** ☒

resource focuses on specific location

Non-United States

**Non-United States:** Europe

**Health Impact:** ☒

specification of health effect or disease related to climate change exposure

Morbidity/Mortality

**Mitigation/Adaptation:** ☒

mitigation or adaptation strategy is a focus of resource

Adaptation

**Model/Methodology:** ☒

type of model used or methodology development is a focus of resource

Cost/Economic, Exposure Change Prediction, Methodology, Outcome Change Prediction

**Resource Type:** ☒

format or standard characteristic of resource

Research Article, Research Article

**Timescale:** ☒

time period studied

Long-Term (>50 years)